EPA National Rule Limiting VOC of Architectural Coatings

Impact on Small Businesses

by

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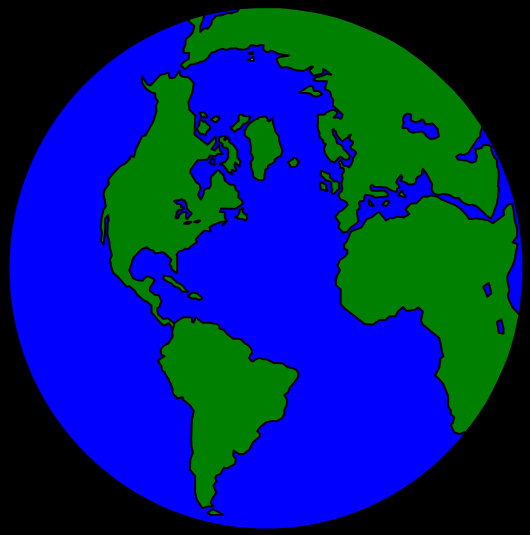
VOC REGULATORY STATUS

- CLEAN AIR ACT
- OVERVIEW OF CURRENT RULES
- EPA NATIONAL RULE
- TABLE OF STANDARDS
- IMPACTS ON SMALL BUSINESSES
- ENFORCEMENT

CLEAN AIR ACT - OZONE
NAT'L AMBIENT AIR QUALITY STDS

NONATTAINMENT CLASSIFICATIONS			ATTAINMENT GOALS
Extreme	(1)	2010	20 years
Severe	(4 + 5)	2005 & 7	15 years
Serious	(12)	1999	9 years
Moderate	(31)	1996	6 years
Marginal	(41)	1993	3 years

OZONE - THE POLLUTANT VS. OZONE DEPLETION



POLLUTION:
AT GROUND LEVEL

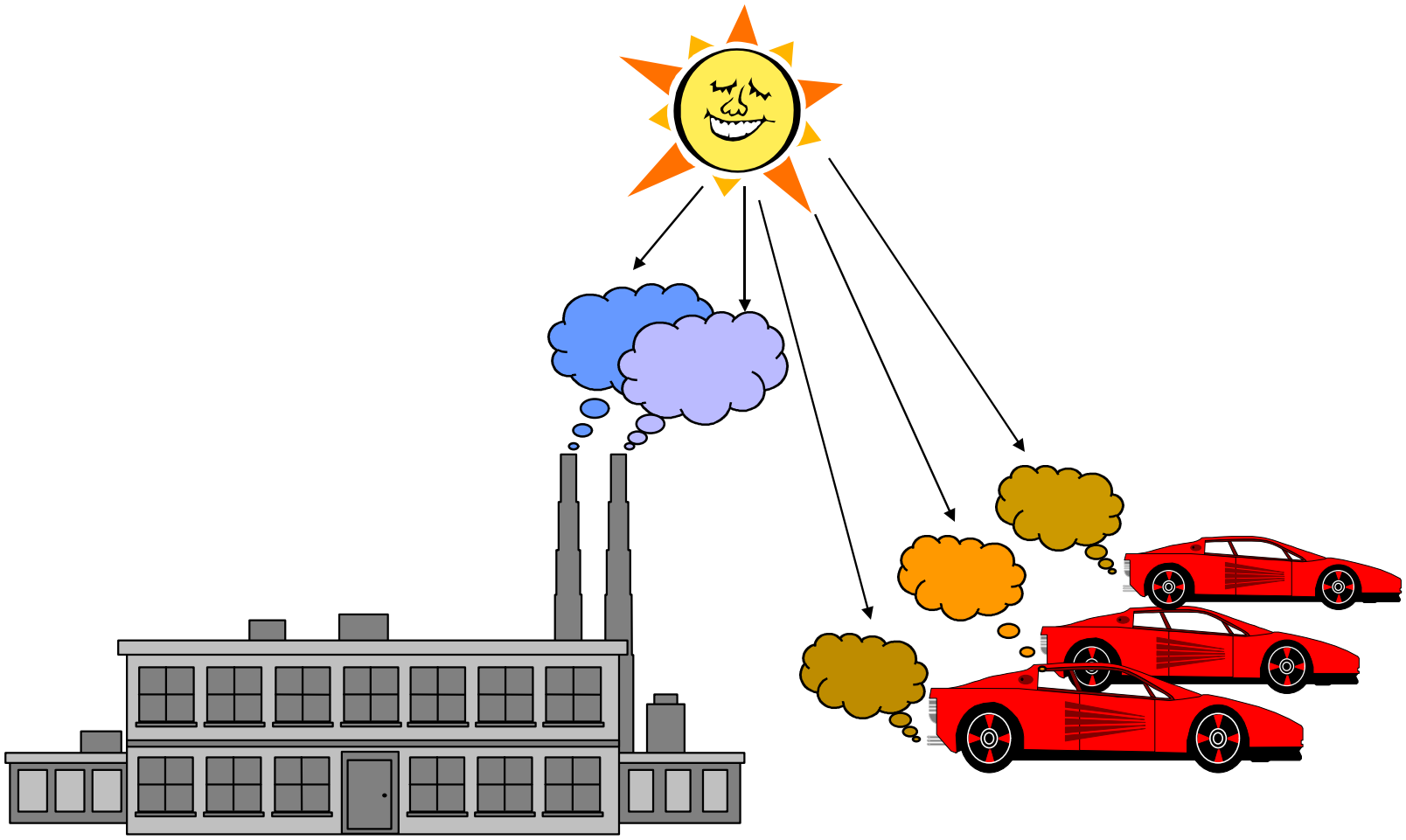
DEPLETION:
IN THE STRATOSPHERE

POTENTIAL HEALTH EFFECTS FROM OZONE POLLUTION

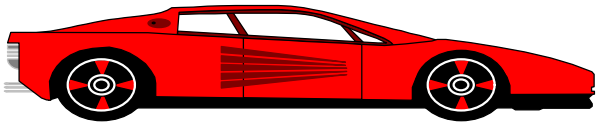
- LUNG DAMAGE
- CROP AND FOREST DAMAGE
- SKIN CANCER
- REDUCED RESISTANCE TO INFECTION

OZONE FORMATION

NOx + VOC = OZONE



VOC SOURCES



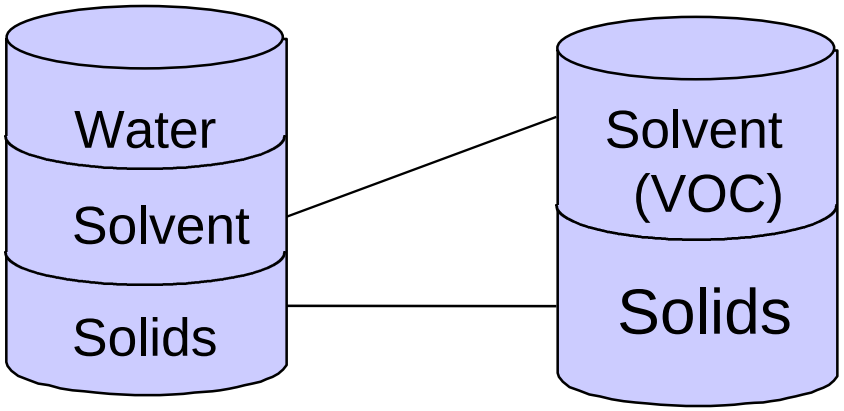
- AUTOMOBILES
- DRY CLEANERS
- REFINERIES
- PHARMACEUTICAL, PLASTIC & CHEMICAL PLANTS
- MANUFACTURERS
- PRINTING PLANTS
- BAKERIES
- PAINTING OPERATIONS

WHAT ARE VOC'S?

- **VOC's are volatile organic compounds.**
- **VOC content is on a "less water" basis**

$$\frac{\text{Wt. volatile organics}}{\text{Vol. paint-Vol. } H_2O} = \frac{\text{Wt. volatile organics}}{\text{Vol. solids+Vol. organics}}$$

EX. 1 # organics, 33% H_2O: 1 / (1-.33) = 1.5 # / gal = VOC content



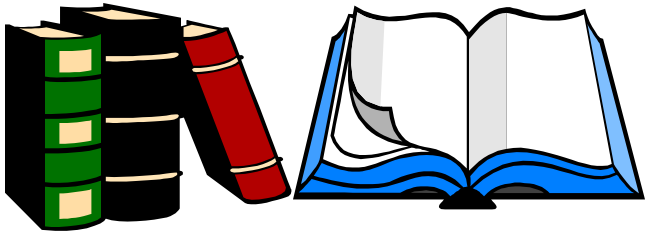
CURRENTLY EFFECTIVE AIM REGULATIONS - LOCATIONS

- **CALIFORNIA - most of state**
- **NEW JERSEY - entire state**
- **NEW YORK - 9 counties near NYC**
- **TEXAS - 16 counties**
- **ARIZONA - 1 county - Phoenix**
- **KENTUCKY - 1 county - Louisville**
- **MASSACHUSETTS - entire state**
- **OREGON - 3 counties near Portland**
- **WASHINGTON - 1 county - Vancouver**

TIMELINE FOR RULE DEVELOPMENT

2/92	First “exploratory” reg-neg meetings
10/92	First meeting of FACA chartered reg-neg comm
1/93	First industry proposal presented (full industry)
11/93	Development of tentative framework for rule
2/94	EPA releases 1st rule draft proposal
thru 8/94	Discussions continue on draft(s)
9/94	Reg-neg disbands without consensus
2/96	EPA releases draft proposal
6/18/96	EPA publishes proposed AIM rule
11/96	Comment period closed
9/11/98	Final rule promulgated
9/13/99	*Rule effective date.*

PUBLICATIONS



Federal Register

Vol. 63, No. 176

9/11/98, p. 48877

EPA Tech Transfer

Network: www.epa.gov/ttn/

search: ttn_search.html

recent: oarpg/ramain.html

EPA NATIONAL RULE CONCEPTS

- NATIONAL RULE
- APPLICABLE TO MANUFACTURERS AND IMPORTERS
- BASED ON DATE OF MANUFACTURE OR IMPORT
- EFFECTIVE DATE: 9/13/99

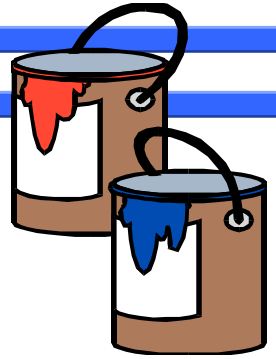
EPA NATIONAL RULE GENERAL PROVISIONS

- **ARCHITECTURAL, INDUSTRIAL MAINTENANCE, and TRAFFIC COATINGS**
- **FIELD APPLICATION ONLY, NOT SHOP USE** ***(shop use controlled by other regulations)***
- **LIMITS VOC CONTENT BY CATEGORY & PRODUCT USE**

EXEMPTIONS

- CONTAINERS OF 1 QT. OR LESS
- AEROSOL COATINGS (aerosols to have separate rule)
- COATINGS MANUFACTURED PRIOR TO RULE EFFECTIVE DATE (9/13/99)
- COATINGS MANUFACTURED FOR EXPORT
- PRODUCTS WITH THE “TONNAGE EXEMPTION”
- PRODUCTS FOR WHICH AN “EXCEEDANCE FEE” HAS BEEN PAID

EPA NATIONAL RULE
KEY CATEGORIES AND VOC LIMITS



CATEGORY	LIMITS:	g/L	lbs/gal
FLATS		250	2.1
NONFLATS		380	3.2
PRIMERS & UNDERCOATERS		350	2.9
SEALERS		400	3.3
INDUSTRIAL MAINTANENCE		450	3.75
LACQUER		680	5.7
STAINS & WOOD PRES. - SEMI-TRANS.		550	4.6
STAINS & WOOD PRES. - OPAQUE		350	2.9
VARNISHES		450	3.75
ZONE MARKING COATINGS		450	3.8
TRAFFIC MARKING COATINGS		150	1.25

ARCHITECTUAL AND INDUSTRIAL MAINTENANCE COATINGS

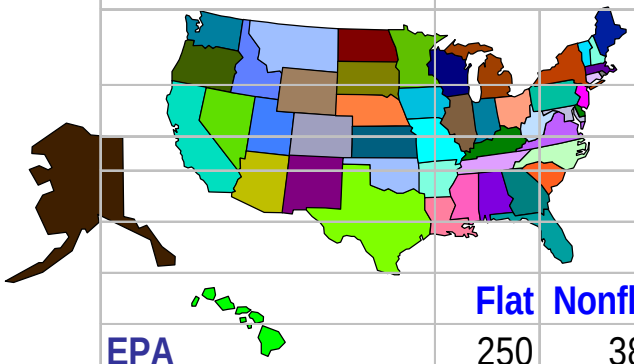


TABLE OF STANDARDS*

UNITS: grams per liter (less water and exempt compounds)

	Flat	Nonflat	Ind. Main.	Traffic	Primers	Sealers	Varnish	Lacquer	Stains & Preserv. Semi Trans-parent	Opaque
EPA	250	380	450	150	350	400	450	680	550	350
CALIFORNIA **	250	250	340-420	250	350	350	350	350-680	350	350
NEW JERSEY	250	380	450	250	350	350	450	680	550	350
N Y (9 counties)	250	380	450	250	350	350	450	680	550	350
AZ, Maricopa Cty.	250	250	420	250	350	350	350	680	350	350
KY, Jefferson Cty.	250	380	450	250	350	400	450	680	550	350
MASSACHUSETTS	250	380	450	250	350	350	450	680	550	350
OR (3 counties)	250	380	450	250	350	400	450	680	550	350
WA, Clark County	250	380	450	250	350	400	450	680	550	350
TX (16 counties)	---------	----------	----------	----- ALL different categories				----------	----------	----------

* 1998 limits are based on standards (and EPA rule) as of March, 1999

** The State of California has different regulations throughout the state.

EPA VOC CONTENT LIMITS
ARCHITECTURAL COATINGS

COATING CATEGORY	g/l	lbs/gal
Antenna Coatings	530	4.4
Anti-fouling Coating	450	3.3
Anti-graffiti Coatings	600	5.0
Bituminous Coatings & Mastics*	500	4.2
Bond Breakers	600	5.0
Calcimine Recoater	475	4.0
Chalkboard Resurfacers	450	3.8
Concrete Curing Compound	350	2.9
Concrete Curing & Sealing	700	5.8
Concrete Protective Coatings	400	3.3
Concrete Surface Retarders	780	6.5
Conversion Varnish	725	6.0
Dry Fog Coatings	400	3.3
Extreme High Durability Coatings	800	6.7
Faux Finishing / Glazing	700	5.8
Fire Retardent/Resistant Coatings		
Clear	850	7.1
Opaque	450	3.8
Flat Coatings		
Exterior	250	2.1
Interior	250	2.1
Floor Coatings	400	3.3
Flow Coatings	650	5.4
Form Release Compounds	450	3.8
Graphic Arts Coatings (sign paints)	500	4.2
Heat Reactive Coatings	420	3.5
High Temperature Coatings	650	5.4
Impacted Immersion Coatings	780	6.5
Industrial Maintenance Coatings	450	3.8
Lacquers	680	5.7
Magnesite Cement Coatings	600	5.0
Mastic Texture Coatings	300	2.5

COATING CATEGORY	g/l	lbs/gal
Metallic Pigmented Coatings	500	4.2
Multi-Colored Coatings	580	4.8
Nonferrous Ornamental Metal Lacquers		
& Surface Protectants	870	7.3
Nonflat Coatings		
Exterior	380	3.2
Interior	380	3.2
Nuclear Coatings	450	3.8
Pre-treatment Wash Primers	780	6.5
Primers & Undercoaters	350	2.9
Quick Dry Coatings:		
Enamels	450	3.8
Primers, Sealers, and Undercoaters	450	3.8
Repair & Maintenance Thermoplastic Ctgs	650	5.4
Roof Coatings	250	2.1
Rust Preventative Coatings	400	3.3
Sanding Sealers	550	4.6
Sealers	400	3.3
Shellacs		
Clear	730	6.4
Opaque	550	4.6
Stains & Wood Preservatives		
Below Ground Wood Preservatives	550	2.9
Clear & Semi-Transparent	550	4.6
Opaque	350	2.9
Stain Controllers	720	6.0
Swimming Pool Coatings	600	5.0
Thermoplastic Rubber Coatings & Mastics	550	4.6
Traffic Marking Coatings	150	1.3
Varnishes	450	3.8
Waterproofing Sealers & Treatments	600	5.0
Zone Marking Coatings	450	3.8

LIMITATIONS - Based on coating category and usage

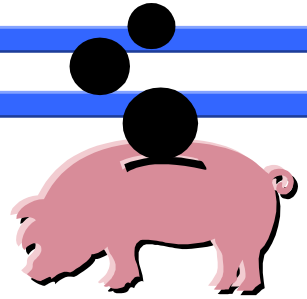
- **Lowest limit applies, except:**
- High temperature metallic coatings are considered high temperature coatings.
- Lacquers coatings recommended for any application to wood are considered lacquers.
- Metallic coatings recommended as roof coatings, industrial maintenance coatings or primers are considered metallic coatings.
- Shellacs or bituminous coatings and mastics recommended for any application are considered shellacs or bituminous coatings and mastics
- Fire retardant / resistive coatings recommended for any application are considered fire retardant / resistive coatings.
- Pretreatment wash primers recommended for as primers or as industrial maintenance primers are considered pretreatment wash primers.

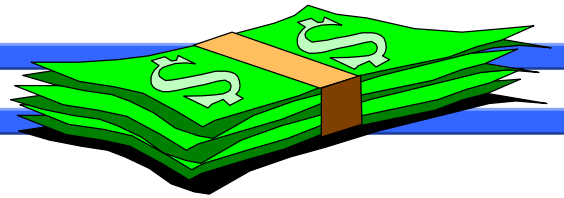
continued

LIMITATIONS - continued

- Industrial maintenance coatings recommended are primers, sealers, undercoaters, or mastic texture coatings are considered industrial maintenance coatings.
- Varnishes and conversion varnishes recommended as floor coatings are considered varnishes and conversion varnishes.
- Sanding sealers or waterproofing sealers and treatments meeting definition for quick dry sealers are considered sanding sealers or waterproofing sealers and treatments.
- Antenna, high temperature, impacted immersion, anti-graffiti, thermoplastic rubber, repair and maintenance thermoplastic, and flow coatings meeting the definition for industrial maintenance coatings are still considered in their respective category and do not need to meet the more restrictive industrial maintenance limit.

EXCEEDANCE FEE



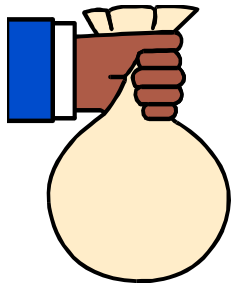


FEE DUE =

Fee Rate x Excess VOC X Volume mfrd

Fee Rate = $0.0028 / gram excess VOC

$1.27 / pound excess VOC



ISSUES: How calculate for water borne coatings?

TONNAGE EXEMPTION

EXEMPTED AMOUNT

MEGAGRAMS	TONS	TIME PERIOD
23	25	9/13/99-12/31/2000
18	20	1/1/2001-12/31/2001
9	10	ANNUALLY

ISSUES: how treat subsidiary companies? Who is the exempted manufacturer?

IMPACTS ON SMALL BUSINESSES

- Manufacturers must meet limits or pay exceedance fees (unless *very* low production)
- Solvent borne coatings may become more expensive - either more expensive technology, higher solids, or exceedance fee
- Contractors will need to learn how to use the new products

CLEAN AIR ACT ENFORCEMENT PROVISIONS

	PER DAY / PER OCCURRENCE
CIVIL *	$ 25,000
* Civil suits to obtain penalties	
ADMINISTRATIVE	25,000
FIELD CITATIONS	5,000
CRIMINAL	up to 250,000

Knowing violation, felony, records, reports, fees…..

Up To 5 Years In Jail

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